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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,450	10/07/2005	Satoru Ejiri	Q90623	2310

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EXAMINER	
BARON, HENRY	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/552,450	EJIRI, SATORU	
	Examiner	Art Unit	
	HENRY BARON	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/07/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTIONS

RADIO NETWORK CONTROL DEVICE AND QOS CONTROL METHOD USED FOR THE SAME

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Applicant's Admitted Prior Art, hereafter APA.

2. With regards to claim 1, APA teaches a radio network controller including a plurality of protocol layers, which comprises a plurality of blocks each formed of protocol layers obtained by segmenting said plurality of protocol layers and a UDP (User Datagram Protocol)/IPv6 (Internet Protocol version 6) layer which connects said plurality of blocks. (See Figure 6 and 1: [0004] read FIG. 6 shows a protocol stack of a U (User)-plane when an IP based UTRAN directly connects to an IP network. Shown in FIG. 6 is a protocol stack among a base station (Node B), a radio network controller (RNC) and a router as nodes which form the UTRAN. Here, the U-plane is for transferring user information. Note in Figure 6 user IP layer is IPv6, therefore the UDP layer is UDP (User Datagram Protocol)/IPv6 (Internet Protocol version 6.).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 2 and 5 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art, hereafter APA in view of Yi et al (U.S. Application 20030123485) hereafter Yi.

3. Regarding claims 2 and 5 – 6, APA teaches a QoS (Quality of Service) control method of a radio network controller and the limitations of claim 1 and the protocol layers include at least a PDCP (Packet Data Convergence Protocol) layer, an RLC (Radio Link Control) layer and a MAC (Medium Access Control) layer and an FP (Frame Protocol) layer. (Figure 6).

4. However, APA does not disclose a RLC (Radio Link Control) layer which executes U (User)-plane data segmentation and concatenation.

5. Yi teaches a RLC (Radio Link Control) layer which executes U(User)-plane data segmentation and concatenation, a MAC (Medium Access Control) layer (11: [00167] read [w]hen operated in unacknowledged mode, the RLC layer constructs the RLC PDU using a segmentation and concatenation function for the RLC SDU i.e. U(User)-plane data segmentation and concatenation, adds header information thereto, and transmits it to the receiving party.). Yi does not disclose a FP (Frame Protocol) layer.

6. It would have been obvious at the time the invention was made by a person of ordinary skill in the art to modify the protocol block radio network controller teachings of APA with the UDP/IPv6 teachings of Yi.

7. Protocol layers of a radio network controller modified in this manner can be used to rearranges in-coming frames over the interface, e.g., the frame handling protocol is modified to include a sequence number field and identifier used for rearranging incoming frames connected using the all of state of the art features of IP/v6 allowing more efficient data management using the UDP layer.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over APA, in view of Yi et al (U.S. Application 20030123485) hereafter Yi and in further view of Ruutu (U.S. Patent Application 2003/0123392).

9. With regards to claim 3, APA modified teaches the limitations of claim 2, but does not disclose the protocol layers segmented to execute QoS (Quality of Service) control taking said RLC layer into consideration.

10. Ruutu teaches this limitation in 3: [0039] read the preferred embodiments of the present invention will now be described on the basis of a PDCP layer queuing management and a MAC layer i.e. QoS scheduling function in a Radio Network Controller (RNC) 10 of a 3G network i.e. protocol layers segmented to execute QoS (Quality of Service) control taking said RLC layer into consideration.)

11. It would have been obvious at the time the invention was made by a person of having ordinary skill in the art to modify the protocol block radio network controller teachings of APA modified with the QoS teachings of Ruutu.

12. Incorporating a RLC (Radio Link Control) layer which executes segmentation and concatenation of U(User)-plane data into consideration of QoS control in an RNC (Radio Network Controller Quality of Service allows a DiffServ (Differentiated Services) and service level agreements to be provided to various users.

13. Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art, hereafter APA, in view of Yi et al (U.S. Application 20030123485) hereafter Yi, in view of Vilander et al (U.S. Patent 7,302,497) hereafter Vilander and in further view of Mathes (U.S. Patent 4,682,150)

14. In consideration of claims 4 and 7, APA modified teaches the limitations of claim 2, but does not disclose a filtering function of detecting a start packet and an end packet each set in advance with start packet and end packet excluded to a buffer and abandon the data according to the detection result.

15. Mathes teaches this limitation in Figure 9 and in 4: [0058] read [a]ssociated with the table 110 is the circular buffer 108 (FIG. 9) located in the RAM memory unit 72 (FIG. 4) which includes a plurality of storage locations 134, a start of buffer pointer 136 i.e. start packet and an end of buffer pointer 138 end packet. Included in the pointers 136 and 138 i.e. packets excluded to a buffer and abandon the data according to the detection results (since they are pointers), date 140 and hour 142 storage locations.

16. It would have been obvious at the time the invention was made by a person of ordinary skill in the art to modify the protocol block radio network controller teachings of APA modified with the buffer writing teachings of Mathes.

17. In this manner, blocks of data from the UDP (User Datagram Protocol)/IPv6 (Internet Protocol version 6) layer within a radio network controller can be efficiently directed to the buffer of a QoS controller and transmitted to the end user fulfilling the respective Service Level Agreements.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY BARON whose telephone number is (571)270-1748. The examiner can normally be reached on 7:30 AM to 5:00 PM E.S.T. Monday to Friday.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Seema S. Rao/
Supervisory Patent Examiner, Art Unit 2616

/Henry Baron/
Examiner, Art Unit 2616
HB